

### AMENDMENTS TO THE CLAIMS

Please amend the claims to read as follows:

1. (withdrawn, currently amended) A geotechnical barrier, the barrier including  
a first barrier layer;  
a second barrier layer overlying the first barrier layer and spaced therefrom, at least one of the first and second barrier layers being a geosynthetic barrier layer and  
the first and second barrier layers defining, at least in part, a fluid passageway having an inlet and an outlet; and  
fluid displacement means connected to the outlet and ~~operable~~ adapted to regularly provide a negative pressure at the outlet with respect to the pressure at the inlet, thereby to regularly displace a fluid through said fluid passageway from the inlet to the outlet.
2. (withdrawn) A geotechnical barrier as claimed in claim 1, which includes spacing means for spacing the first barrier layer from the second barrier layer.
3. (withdrawn) A geotechnical barrier as claimed in claim 2, in which the spacing means comprises a drainage layer of at least one non-synthetic material.
4. (withdrawn) A geotechnical barrier as claimed in claim 2, in which the spacing means is of a geosynthetic material.
5. (withdrawn) A geotechnical barrier as claimed in claim 4, in which the spacing means comprises a cusped membrane of a plastics material.
6. (withdrawn, currently amended) A geotechnical barrier as claimed in claim 1, in which ~~the first and second barrier layers comprise at least one barrier layer comprises~~ a non-synthetic geotechnical materials material.
7. (withdrawn) A geotechnical barrier as claimed in claim 1, in which the first and second barrier layers comprise geosynthetic materials.

8. (withdrawn) A geotechnical barrier as claimed in claim 7, in which at least one of the first and second barrier layers is a geocomposite barrier layer.
9. (withdrawn) A geotechnical barrier as claimed in claim 8, in which the geocomposite layer comprises a geocomposite clay liner, the clay layer thereof being in fluid communication with the fluid passageway.
10. (withdrawn) A geotechnical barrier as claimed in claim 1, in which the fluid comprises air.
11. (withdrawn) A geotechnical barrier as claimed in claim 10, which includes entrainment means connected at the inlet of the fluid passageway for entraining a substance into an air stream provided at the inlet, to provide a fluid for displacement through the fluid passageway comprising a mixture of air and the said substance.
12. (withdrawn) A geotechnical barrier as claimed in claim 11, in which the substance is water.
13. (withdrawn) A geotechnical barrier as claimed in claim 1, which includes a temperature control means for controlling the temperature of the fluid introduced at the inlet of the fluid passageway.
14. (withdrawn) A geotechnical barrier as claimed in claim 1, in which the outlet is connected to a disposal means for disposing of the fluid and any contaminants entrained therein extracted at the outlet.
15. (canceled) A method for constructing and operating a geotechnical barrier, the method including
  - providing a first barrier layer;
  - providing a second barrier layer overlying the first barrier layer and spaced therefrom, the first and second barrier layers defining, at least in part, a fluid passageway having an inlet and an outlet; and
  - providing a negative pressure at the outlet with respect to the inlet, thereby displacing a fluid through said fluid passageway from the inlet to the outlet.

16. (canceled) A method as claimed in claim 15, which includes providing spacing means for spacing the first barrier layer from the second barrier layer.
17. (canceled) A method as claimed in claim 16, in which the spacing means comprises a drainage layer of at least one non-synthetic material.
18. (canceled) A method as claimed in claim 17, in which the spacing means is of a geosynthetic material.
19. (canceled) A method as claimed in claim 18, in which the spacing means comprises a cusped membrane of a plastics material.
20. (canceled) A method as claimed in claim 15, in which the first and second barrier layers comprise non-synthetic geotechnical materials.
21. (canceled) A method as claimed in claim 15, in which the first and second barrier layers comprise geosynthetic materials.
22. (canceled) A method as claimed in claim 21, in which at least one of the first and second barrier layers is a geocomposite barrier layer.
23. (canceled) A method as claimed in claim 22, in which the geocomposite layer comprises a geocomposite clay liner, the clay layer thereof being in fluid communication with the fluid passageway.
24. (canceled) A method as claimed in claim 15, in which the fluid comprises air.
25. (canceled) A method as claimed in claim 24, which includes entraining a substance into an air stream provided at the inlet, to provide a fluid for displacement through the fluid flow passageway comprising a mixture of air and the said substance.
26. (canceled) A method as claimed in claim 25, in which the substance is water.

27. (canceled) A method as claimed in claim 15, which includes controlling the temperature of the fluid introduced at the inlet of the fluid passageway.
28. (canceled) A method as claimed in claim 15, which includes the step of disposing of the fluid and any contaminants entrained therein extracted at the outlet.
29. (withdrawn, currently amended) A geosynthetic barrier including  
a first geosynthetic barrier layer;  
a second geosynthetic barrier layer;  
spacer means intermediate the first and second barrier layers to space the said barrier layers apart, the first and second barrier layers thereby defining a fluid passageway and the fluid passageway having an inlet and an outlet; and  
fluid displacement means ~~for displacing~~ adapted to regularly displace a fluid through said fluid passageway from the inlet to the outlet.
30. (withdrawn) A geosynthetic barrier as claimed in claim 29, in which the first barrier layer comprises a geosynthetic membrane.
31. (withdrawn) A geosynthetic barrier as claimed in claim 30, in which the second barrier layer comprises a geosynthetic membrane.
32. (withdrawn) A geosynthetic barrier as claimed in claim 30, in which the second barrier layer comprises a geocomposite clay liner comprising a second geosynthetic membrane and a clay liner, the clay liner being positioned intermediate the first and second geosynthetic membranes and the spacer means being positioned intermediate the first membrane and the clay liner to space the said membranes apart, thereby defining the fluid passageway between the first membrane and the clay liner.
33. (withdrawn) A geosynthetic barrier as claimed in claim 31, in which the second geosynthetic membrane overlies the first geosynthetic membrane.
34. (withdrawn) A geosynthetic barrier as claimed in claim 33, in which the first and second geosynthetic membranes are peripherally sealed to each other.

- 35. (withdrawn) A geosynthetic barrier as claimed in claim 29, in which the spacing means comprises a drainage layer of at least one non-synthetic material.
- 36. (withdrawn) A geosynthetic barrier as claimed in claim 29, in which the spacing means is of a geosynthetic material.
- 37. (withdrawn) A geosynthetic barrier as claimed in claim 36, in which the spacing means comprises a cusped membrane of a plastics material.
- 38. (withdrawn) A geosynthetic barrier as claimed in claim 29, in which the fluid displacement means is connected to the outlet of the fluid passageway and is operable to provide a negative pressure at the outlet with respect to the pressure at the inlet, thereby to displace the fluid through said fluid passageway from the inlet to the outlet.
- 39. (withdrawn) A geosynthetic barrier as claimed in claim 29, in which the fluid comprises air.
- 40. (withdrawn) A geosynthetic barrier as claimed in claim 39, which includes entrainment means connected at the inlet of the fluid passageway for entraining a substance into an air stream provided at the inlet, to provide a fluid for displacement through the fluid passageway comprising a mixture of air and the said substance.
- 41. (withdrawn) A geosynthetic barrier as claimed in claim 40, in which the substance is water.
- 42. (withdrawn) A geosynthetic barrier as claimed in claim 29, which includes a temperature control means for controlling the temperature of the fluid introduced at the inlet of the fluid passageway.
- 43. (withdrawn) A geosynthetic barrier as claimed in claim 29, in which the outlet is connected to a disposal means for disposing of the fluid and any contaminants entrained therein extracted at the outlet.

44. (currently amended) A method for constructing and operating a geosynthetic barrier, the method including
- providing a first ~~geosynthetic~~ barrier layer;
  - providing a second ~~geosynthetic~~ barrier layer, at least one of the first and second barrier layers being a geosynthetic barrier layer;
  - providing spacer means intermediate the first and second barrier layers to space the said barrier layers apart, the first and second barrier layers thereby defining a fluid passageway and the fluid passageway having an inlet and an outlet; and
    - providing, regularly, a negative pressure at the outlet with respect to the inlet, thereby displacing, regularly, a fluid through said fluid passageway from the inlet to the outlet.
45. (currently amended) A method as claimed in claim 44, in which the at least one of the first and second layers being a geosynthetic barrier layer comprises a geosynthetic membrane.
46. (canceled)
47. (currently amended) A method as claimed in claim 45, in which the first barrier layer comprises a geosynthetic membrane and the second barrier layer comprises a geocomposite clay liner comprising a second geosynthetic membrane and a clay liner, the clay liner being positioned intermediate the first and second geosynthetic membranes and the spacer means being positioned intermediate the first membrane and the clay liner to space the said membranes apart, thereby defining the fluid passageway between the first membrane and the clay liner.
48. (currently amended) A method as claimed in claim ~~46~~ 47, in which the second geosynthetic ~~membrane barrier layer~~ membrane overlies the first geosynthetic membrane.
49. (original) A method as claimed in claim 48, in which the first and second geosynthetic membranes are peripherally sealed to each other.
50. (previously presented) A method as claimed in claim 44, in which the spacing means comprises a drainage layer of at least one non-synthetic material.

51. (previously presented) A method as claimed in claim 44, in which the spacing means is of a geosynthetic material.
52. (original) A method as claimed in claim 51, in which the spacing means comprises a cusped membrane of a plastics material.
53. (previously presented) A method as claimed in claim 44, in which the fluid is displaced by means of a fluid displacement means connected to the outlet of the fluid passageway, the fluid displacement means being operable to provide a negative pressure at the outlet with respect to the pressure at the inlet, thereby to displace the fluid through said fluid passageway from the inlet to the outlet.
54. (previously presented) A method as claimed in claim 44, in which the fluid comprises air.
55. (previously presented) A method as claimed in claim 54, which includes the step of entraining a substance into an air stream provided at the inlet, to provide the fluid for displacement through the fluid passageway comprising a mixture of air and the said substance.
56. (original) A method as claimed in claim 55, in which the substance is water.
57. (previously presented) A method as claimed in claim 44, which includes the step of controlling the temperature of the fluid introduced at the inlet of the fluid passageway.
58. (previously presented) A method as claimed in claim 44, which includes the step of disposing of the fluid and any contaminants entrained therein extracted at the outlet.
59. (currently amended) A method for flushing contaminants from a ~~geotechnical~~ geosynthetic barrier comprising at least two barrier layers, at least one of which is a geosynthetic barrier layer, and having a fluid passageway having an inlet and an outlet defined therebetween, the method including providing, regularly, a negative pressure at the outlet with respect to the inlet, thereby displacing, regularly, a fluid through

said fluid passageway to entrain contaminants that have penetrated one of the a barrier layers layer in a fluid flowstream.

60. (currently amended) A method for hydrating a clay liner of a geotechnical geosynthetic barrier comprising first and second at least two barrier layers, at least one of which is a geosynthetic barrier layer and one of which includes a clay liner, the barrier layers having a passageway having an inlet and an outlet defined between the clay liner and the other of the barrier layers, the method including providing, regularly, a negative pressure at the outlet with respect to the inlet, thereby displacing, regularly, a hydrating fluid through a the fluid passageway defined between the clay liner and the other of the barrier layers.
61. (new) A method as claimed in claim 59, in which both of the barrier layers are geosynthetic barrier layers.
62. (new) A method as claimed in claim 60, in which both of the barrier layers are geosynthetic barrier layers.
63. (new) A method as claimed in claim 44, in which both the first and the second barrier layers are geosynthetic barrier layers.
64. (new) A method for constructing and operating a geosynthetic barrier, the method including
- providing a first barrier layer;
  - providing a second barrier layer, at least one of the first and second barrier layers being a geosynthetic barrier layer;
  - providing spacer means intermediate the first and second barrier layers to space the said barrier layers apart, the first and second barrier layers thereby defining a fluid passageway and the fluid passageway having an inlet and an outlet; and
  - providing, substantially continuously, a negative pressure at the outlet with respect to the inlet, thereby displacing, substantially continuously, a fluid through said fluid passageway from the inlet to the outlet.



65. (new) A method as claimed in claim 64, in which both of the barrier layers are geosynthetic barrier layers.
66. (new) A method as claimed in claim 64, in which the negative pressure is provided continuously, thereby displacing, continuously, the fluid through the said fluid passageway from the inlet to the outlet.
67. (new) A method as claimed in claim 66, in which both of the barrier layers are geosynthetic barrier layers.
68. (new) A method for flushing contaminants from a geosynthetic barrier comprising at least two barrier layers, at least one of which is a geosynthetic barrier layer, and the barrier layers having a fluid passageway having an inlet and an outlet defined therebetween, the method including providing, substantially continuously, a negative pressure at the outlet with respect to the inlet, thereby displacing, substantially continuously, a fluid through said fluid passageway to entrain in a fluid flow stream contaminants that have penetrated a barrier layer.
69. (new) A method as claimed in claim 68, in which the at least two barrier layers are geosynthetic barrier layers.
70. (new) A method as claimed in claim 68, in which the negative pressure is provided continuously, thereby displacing, continuously, the fluid through the said fluid passageway from the inlet to the outlet.
71. (new) A method as claimed in claim 70, in which the at least two barrier layers are geosynthetic barrier layers.
72. (new) A method for hydrating a clay liner of a geosynthetic barrier comprising at least two barrier layers, at least one of which is a geosynthetic barrier layer and one of which includes a clay liner, the barrier layers having a passageway having an inlet and an outlet defined between the clay liner and the other of the barrier layers, the method including providing, regularly, a negative pressure at the outlet with respect to the

inlet, thereby displacing, regularly, a hydrating fluid through the fluid passageway defined between the clay liner and the other of the barrier layers.

73. (new) A method as claimed in claim 72, in which the at least two barrier layers are geosynthetic barrier layers.
74. (new) A method as claimed in claim 72, in which the negative pressure is provided continuously, thereby displacing, continuously, the fluid through the said fluid passageway from the inlet to the outlet.
75. (new) A method as claimed in claim 74, in which the at least two barrier layers are geosynthetic barrier layers.